Midterm q6: Solve quadratic equations with rational solutions

All of these could technically be solved by factoring, but some will be easier with quadratic formula. You should do your work on a separate piece of paper. Solutions are on the back, shuffled.

1. Solve the quadratic equation: $5x^2 + 18x = -9$

2. Solve the quadratic equation: $6x^2 - 17x + 5 = 0$

3. Solve the quadratic equation: $20x^2 - 24x = -5x - 3$

4. Solve the quadratic equation: $10x^2 - 19x = -6$

5. Solve the quadratic equation: $14x^2 + 5x = 1$

6. Solve the quadratic equation: $6x^2 + 19x = 2x - 12$

7. Solve the quadratic equation: $12x^2 + 17x + 6 = 0$

8. Solve the quadratic equation: $x^2 - 5x = -6x + 20$

9. Solve the quadratic equation: $7x^2 - 17x + 10 = 0$

10. Solve the quadratic equation: $5x^2 - x = 6$

11. Solve the quadratic equation: $5x^2 - 4x - 9 = 0$

12. Solve the quadratic equation: $4x^2 - 9x = 9$

13. Solve the quadratic equation: $10x^2 + 25x = 8x - 3$

14. Solve the quadratic equation: $x^2 - 11x = -7x - 3$

15. Solve the quadratic equation: $x^2 + 17x = 9x + 9$

16. Solve the quadratic equation: $14x^2 - 13x + 3 = 0$

17. Solve the quadratic equation: $3x^2 + 7x = -4$

18. Solve the quadratic equation: $2x^2 - 7x + 6 = 0$

19. Solve the quadratic equation: $5x^2 - 14x = -7x - 2$

20. Solve the quadratic equation: $10x^2 - 10x = -3x + 3$

11. $x = \frac{9}{5}$ and $x = -1$

7. $x = \frac{-3}{4}$ and $x = \frac{-2}{3}$

20. $x = 1$ and $x = \frac{-3}{10}$

5. $x = \frac{1}{7}$ and $x = \frac{-1}{2}$

6. $x = \frac{-3}{2}$ and $x = \frac{-4}{3}$

19. $x = \frac{2}{5}$ and $x = 1$

3. $x = \frac{1}{5}$ and $x = \frac{3}{4}$

10. $x = \frac{6}{5}$ and $x = -1$

18. $x = 2$ and $x = \frac{3}{2}$

13. $x = \frac{-1}{5}$ and $x = \frac{-3}{2}$

8. $x = -5$ and $x = 4$

4. $x = \frac{3}{2}$ and $x = \frac{2}{5}$

2. $x = \frac{1}{3}$ and $x = \frac{5}{2}$

12. $x = 3$ and $x = \frac{-3}{4}$

15. $x = -9$ and $x = 1$

9. $x = \frac{10}{7}$ and $x = 1$

16. $x = \frac{1}{2}$ and $x = \frac{3}{7}$

14. $x = 3$ and $x = 1$

1. $x = -3$ and $x = \frac{-3}{5}$

17. $x = \frac{-4}{3}$ and $x = -1$